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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,576	09/27/2001	Yasuhiro Takishima	011151	9689

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EXAMINER

WONG, ALLEN C

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 08/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/963,576

Applicant(s)

TAKISHIMA ET AL.

Examiner

Allen Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☒ Claim(s) 2 and 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 6/3/04 have been fully read and considered but they are not persuasive.

Regarding lines 12-13 on page 4 of applicant's remarks, applicant asserts that Girod does not disclose, suggest or teach the generation of encoded bit streams based on dispersing an encoding error amongst multiple channels. The examiner respectfully disagrees. Girod does teach generation of encoded bit streams based on dispersing an encoding error amongst multiple channels, where in Girod's fig.2 and 6A, there are multiple channels with elements 100a producing the first channel, element 100b producing the second channel, and element 100c producing the third channel. And also, observe that in fig.6A and col.6, ln.39-42, Girod discloses the transmission of multiple bitstreams or channels into a broadband transmission channel, where the multiplexer 158 gathers the multiple channels and form a broadband transmission channel 150 to send the multiplexed data to the decoding end as shown in fig.6B in that the multiplexed data is demultiplexed by DEMUX 162 into multiple channels for decoding and outputting for display.

And further, element 114a and 116a of Girod's fig.2 and 6A form a first encoding section of an original picture, from "VIDEO IN", and transmitting the encoded original picture with a first channel at output 122a, element 120a is the first motion compensation section for generating a first compensated original picture obtained by adding to said original picture, where the element 112a

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receives the original picture and that element 119a receives the original picture, via first encoder section elements 114a and 116a and first decoder section 118a, and also, after decoding of IDCT 118a, the quantization errors are dispersed through motion compensation section 120a, and that the output of motion compensation section 120a is fed backward to element 119a and down to the second encoder section 114b through switch 132 for dispersing the encoding error occurred in the first encoding section to the remaining channels. Girod's fig.2 and 6A, elements 114b and 116b comprise a second encoding section for encoding the first compensated original picture obtained from the output of element 119a, and transmitting the first encoded compensated original picture through a second channel at output element 122b.

Furhter, in fig.2 and 6A, Girod discloses element 120b is the second or i-th compensation section for generating a second or i-th compensated original picture obtained by adding to said original picture, where the element 112b receives the original picture and that element 119b receives the original picture, via second encoder section elements 114b and 116b and second decoder section 118b, and also, after decoding of IDCT 118b, the quantization errors are dispersed through motion compensation section 120b, and that the output of motion compensation section 120b is fed backward to element 119b and down to the third or (i+1)-th encoder section 114c through switch 134 for dispersing the encoding error occurred in the second or i-th encoding section to the remaining channels. In Girod's fig.2 and 6A, elements 114c and 116c form the third or (i+1)-th encoding section for encoding said i-th compensated original picture,

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and transmitting an encoded i -th compensated picture through a third or $(i+1)$ -th channel.

Regarding lines 4-5 on page 5 of applicant's remarks, applicant states that Girod does not incorporate a plurality of transmission channels as a factor in their encoding. The examiner respectfully disagrees. As stated in the above paragraphs, Girod does teach generation of encoded bit streams based on dispersing an encoding error amongst multiple channels, where in Girod's fig.2 and 6A, there are multiple channels with elements 100a producing the first channel, element 100b producing the second channel, and element 100c producing the third channel. And also, observe that in fig.6A and col.6, ln.39-42, Girod discloses the transmission of multiple bitstreams or channels into a broadband transmission channel, where the multiplexer 158 gathers the multiple channels and form a broadband transmission channel 150 to send the multiplexed data to the decoding end as shown in fig.6B in that the multiplexed data is demultiplexed by DEMUX 162 into multiple channels for decoding and outputting for display.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Girod (US 6,480,541).

Regarding claim 1, Girod discloses an apparatus for dividing, compressing and transmitting video data that uses a plurality of channels for transmission (fig.2 and 6A), at least comprising:

a first encoding section for encoding an original picture and transmitting it with a first channel (fig.2 and 6A, element 114a and 116a form a first encoding section of an original picture, from "VIDEO IN", and transmitting the encoded original picture with a first channel at output 122a);

a first compensation section for generating a first compensated original picture obtained by adding to said original picture a value obtained by dispersing an encoding error occurred in said first encoding section to the remaining channels (fig.2 and 6A, element 120a is the first motion compensation section for generating a first compensated original picture obtained by adding and subtracting to/from said original picture, where the element 112a receives the original picture and that element 119a receives the original picture, via first

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encoder section elements 114a and 116a and first decoder section 118a, and also, after decoding of IDCT 118a, the quantization errors are dispersed through motion compensation section 120a, and that the output of motion compensation section 120a is fed backward to element 119a and down to the second encoder section 114b through switch 132 for dispersing the encoding error occurred in the first encoding section to the remaining channels); and

a second encoding section for encoding said first compensated original picture and transmitting an encoded compensated picture through a second channel (fig.2 and 6A, elements 114b and 116b comprise a second encoding section for encoding the first compensated original picture obtained from the output of element 119a, and transmitting the first encoded compensated original picture through a second channel at output element 122b).

Regarding claim 3, Girod discloses an apparatus for dividing, compressing and transmitting video data according to claim 1, further comprising:

an i-th ($i = 2, 3, \dots, N-1$) compensation section for generating an i-th compensated original picture obtained by adding to said original picture a value obtained by dispersing an encoding error occurred in an i-th encoding section to the remaining channels (fig.2 and 6A, element 120b is the second or i-th compensation section for generating a second or i-th compensated original picture obtained by adding and subtracting to/from said original picture, where the element 112b receives the original picture and that element 119b receives the original picture, via second encoder section elements 114b and 116b and second decoder section 118b, and also, after decoding of IDCT 118b, the

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quantization errors are dispersed through motion compensation section 120b, and that the output of motion compensation section 120b is fed backward to element 119b and down to the third or (i+1)-th encoder section 114c through switch 134 for dispersing the encoding error occurred in the second or i-th encoding section to the remaining channels); and

an (i+1) –th encoding section for encoding said i-th compensated original picture and transmitting an encoded i-th compensated picture through an (i+1) –th channel (fig.2 and 6A, elements 114c and 116c form the third or (i+1)-th encoding section for encoding said i–th compensated original picture, and transmitting an encoded i–th compensated picture through a third or (i+1)-th channel).

Allowable Subject Matter

3. Claims 2 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Girod discloses a method and apparatus for providing scalable pre-compressed digital video with reduced quantization based artifacts.

Nishihara et al (US 4,903,317) disclose an image processing apparatus. The prior art does not disclose the specifics of claim 2, especially the limitation:

$$S(2) = \{(S(1) - C(1)) / (N-1) + S(1) \dots,$$

where S(2) is first compensated original picture, and S(1) is the original picture, C(1) is the decoded data, and N is the total number of channels. Also, the prior

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art does not disclose the specifics of claim 4, where the i-th compensated original picture is designated as $S(i+1)$:

$$S(i+1) = \{S(1) \times i - \sum_{k=1}^i C(k) / (N-1) + S(1) \dots \text{for } k=1 \text{ to } i.$$

Conclusion

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (703) 306-5978. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (703) 305-4856.

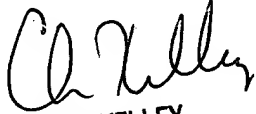
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The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Allen Wong
Examiner
Art Unit 2613

AW
8/12/04


CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
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